



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/075,002	02/13/2002	David M. Lewin	SMFI 3.0-001	7149

530 7590 08/22/2003

LERNER, DAVID, LITTENBERG,
KRUMHOLZ & MENTLIK
600 SOUTH AVENUE WEST
WESTFIELD, NJ 07090

EXAMINER

OJINI, EZIAMARA ANTHONY

ART UNIT PAPER NUMBER

3723

DATE MAILED: 08/22/2003

3

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/075,002

Applicant(s)

LEWIN ET AL.

Examiner

Anthony Ojini

Art Unit

3723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 2/13/02 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2. 6) ☐ Other: _____

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the **computer numeric control system** and the **pressurized air supply source** must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claims 1,4,9, lines 8,4,9 respectively, the term "may be" is considered indefinite since the resulting claim does not clearly set forth the metes and bounds of the patent protection desired.

In claim 11, line 2, the expression "the CNC system" lacks antecedent basis.

Art Unit: 3723

In claim 17, line 18, the recitation that an element is "sufficient" to perform a given function is not a positive limitation but only requires the ability to so perform. It does not constitute in any patentable sense.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 4, 5, 9, 12, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Erichsen et al. (5,643,058) in view of Carpenter, Jr. (3,629,976).

With respect to claims 1, 9, Erichsen et al. disclose fluid jet cutting system comprising a storage assembly (12) containing abrasive particulate material (18), said the storage assembly including inlet (14), for allowing the abrasive particulate material to flow therein, an outlet (32) for allowing the abrasive particulate material to flow therefrom; a fluid supply source (11) in communication with the storage assembly wherein the abrasive particulate material is mixed with a predetermined amount of liquid (see fig. 3A). Erichsen et al. also disclose means (58) having a rod (56) coupled to a stopper (60) being selectively raised to a first position (62) and lowered to a second position (64) for controlling the flow of abrasive particulate through the outlet. Erichsen et al. fail to disclose an inflatable diaphragm arrange at the outlet wherein the inflatable diaphragm

is selectively inflated and deflated to control the flow of the abrasive particulate material through the outlet.

Carpenter, Jr. discloses a flexible diaphragm (30) for controlling the flow of abrasive particulate through the outlet (col. 2, lines 59-73).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide apparatus of Erichsen et al. with diaphragm arrange at the outlet wherein the diaphragm is being selectively flexed to a first position and a second position in view of Carpenter so as to control the flow of the abrasive particulate material through the outlet.

With respect to claim 4, Erichsen et al. disclose a nozzle (54) connected to a liquid supply source wherein the abrasive particulate material and liquid are dispersed from the nozzle at a predetermined pressure (see figs. 1,3A).

With respect to claims 5,12, Erichsen et al. disclose the storage assembly comprises an upper housing that retaining at least a portion of outlet, and a lower housing connected to the upper housing, said the upper housing and lower housing having a passageway therein for permitting abrasive particulate material to flow therethrough (see fig. 2).

With respect to claim 17, Erichsen et al. disclose method of controlling a flow of abrasive particulate material in a fluid jet cutting system comprising the following step: retaining abrasive particulate material (18) in a storage container (12);

Art Unit: 3723

selectively raising a device means having a rod (56) coupled to a stopper (60) being selectively raised to a first position (62) and lowered to a second position (64) for controlling the flow of abrasive particulate through the outlet said the storage container; mixing the abrasive particulate material with a fluid so that a desired ratio of abrasive particulate material to liquid is created; and permitting the abrasive particulate material to flow with the liquid through a nozzle (54) of the fluid jet cutting apparatus, thus creating an abrasive stream that abrades a target object.

Erichsen et al. fail to disclose step of selectively inflating a diaphragm arranged at an outlet of a storage vessel to preclude the abrasive particulate material from flowing therethrough; and selectively deflating a diaphragm to permit the abrasive particulate material to flow through the outlet.

Carpenter, Jr. discloses a flexible diaphragm (30) for controlling the flow of abrasive particulate through the outlet (see col. 2, lines 59-73).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide apparatus of Erichsen et al. with diaphragm arrange at the outlet wherein the diaphragm is being selectively slide to a first position and a second position in view of Carpenter so as to control the flow of the abrasive particulate material through the outlet.

Art Unit: 3723

Allowable Subject Matter

Claims 2,3,6-8,10,11,13-16,18-19,20 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Cook et al., Pickard, Xu, Gunther et al., Pettit et al., Stefanik et al., Rankin et al., Hashish et al., and Warehime.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Ojini whose telephone number is 703 305 3768. The examiner can normally be reached on 7.30 to 5.00 Tue-Fri with every other Mon. off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Hail can be reached on 703 308 2687. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703 308 1148.



ao
August 19,2003